



UNITED STATES PATENT AND TRADEMARK OFFICE

[Signature]
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,059	12/14/2005	William Marshall Stark	056646-5024	2559

9629 7590 06/29/2007
MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER

CHOWDHURY, IQBAL HOSSAIN

ART UNIT	PAPER NUMBER
----------	--------------

1652

MAIL DATE	DELIVERY MODE
-----------	---------------

06/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,059

Applicant(s)

STARK ET AL.

Examiner

Iqbal H. Chowdhury, Ph.D.

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,15-17,24-27,43-45,60-66 and 69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-4, 7-14, 18-23, 28-42, 46-47, 52-59, 67-68 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1652

DETAILED ACTION

Election/Restrictions

This application is a 371 of PCT/GB03/04169.

Claims 1-69 are currently pending.

The preliminary amendment filed on 3/20/2007, amending claims 36-37, and 40 is acknowledged.

Applicant's election with traverse of Group I, Claims 1-14, 18-42, 46-59, and 67-68, drawn to an isolated polypeptide a serine recombinase, hybrid recombinase mutated at position 101 and a catalytic domain peptide and a DNA binding domain, and a kit and species A protein (TN3 resolvase) and SEQ ID NO: 36 from claim 36 in the response filed on 3/20/2007 is acknowledged.

The traversal is on the ground(s) of Special technical feature for restriction requirement that was applied by the Examiner, was not proper. In the previous Office action, Examiner established lack of unity as follows:

The inventions listed as Groups I - XVII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features because the polynucleotide encoding a polypeptide of Group XII-XV and polypeptide of Group I-XII are each unrelated and chemically distinct entities. The only shared technical feature of these groups is that they all relate to polynucleotide encoding a polypeptide serine recombinase. However, this shared technical feature is not a "special technical feature" as defined by PCT Rule 13.2 as it does not define a contribution over the art. Arnold et al. teach a serine recombinase Tn3 resolvase and a mutant G101S and its

Art Unit: 1652

corresponding DNA molecule. (Mutants of Tn3 resolvase which do not require accessory binding sites for recombination activity, EMBO J. 1999 Mar 1; 18(5): 1407-14, see IDS). Thus, a DNA encoding a serine recombinase protein does not make contribution over the prior art. Therefore, it lacks special technical feature.

Applicants argue that according to PCT Rule 13.2 that define the expression “special technical feature” to those technical features that define a contribution over the prior art, which each of the claimed inventions, consider as a whole, makes over prior art. This is not found persuasive because the term “special technical feature” means a common special technical feature among the claims, if that special technical feature is not known than unity exists but if that special technical feature, which is same or corresponding among the claims is known, all the groups lack unity of invention. The term “special” means a common specific feature of the claimed invention among the groups. If applicants were correct, PCT Rule 13.2 would not say “special technical feature” but “all the technical features”. Applicants are claiming a serine recombinase polypeptide with mutation at position G101 and the prior art teach exactly a serine recombinase with mutation at position G101. Therefore, the “special technical feature” is known and all the groups lack unity of invention. In addition, examination in the national phase is not bound by the international phase findings.

As restriction is clearly permissible even among related inventions as defined in MPEP 808 and 35 U.S.C. 121 allows restriction of inventions, which are independent or distinct.

The requirement is still deemed proper and is therefore made **FINAL**.

Claims 5-6, 15-17, 24-27, 43-45, 48-51, 60-66 and 69 are withdrawn from further

Art Unit: 1652

consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Claim 6 is also withdrawn, although depends on claim 3, because claim 6 is directed to a mutation of serine resolvase specifically at position 102, and thus appears was intended to be dependent on claim 5.

This application contains claims directed to the following patentably distinct species of elected claimed invention of Group I. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1. A new species election is deemed necessary for prosecution of this application. Group I also includes serine recombinases having mutations at different positions of serine resolvase, a recombinase, in addition to the mutation of G101. The species are: a mutation at G101 only or mutations at position, 102, 105, 107, 117, 121, 124, 89, 92, 103, 2, 56, 66, 70, 76, 103, and 109 or combination thereof in addition to the G101 mutation of said recombinase or hybrid recombinase.

Each of the mutant protein species (due to mutation at a specific positions) lack special technical feature because each of the variants or peptides having distinct structure and distinct function and part of Tn3 resolvase, which is known in the art (Arnold et al. 1999, see IDS). Arnold et al. teach a serine recombinase Tn3 resolvase and a mutant G101S and its corresponding DNA molecule. Thus, all the recited species lack special technical feature.

Applicant is required under 35 U.S.C. 371 to elect a single disclosed species i.e. a particular combination of the above mutation for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37CFR 1.48b if one or more of the currently named inventors are no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under CFR 1.48 (b) and by the fee required under 37 CFR 1.17 (i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Iqbal H. Chowdhury whose telephone number is 571-272-8137. The examiner can normally be reached on 9:00-5:00.


Art Unit: 1652

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 703-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Iqbal Chowdhury, PhD, Patent Examiner
Art Unit 1652 (Recombinant Enzymes)
US Patent and Trademark Office
Remsen Bldg., Rm. 2B69, Mail Box. 2C70
Ph. (571)-272-8137, Fax. (571)-273-8137

IC


REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP 1800
1652